

Docket No. AUS920040177US1

CLAIMS:

What is claimed is:

1. A method for managing a plurality of computer systems attached to a network, said method comprising the computer implement steps of:

for each type of element in said plurality of computer systems, defining attributes that are of interest in the operation of said computer systems;

for each element in said plurality of computer systems, assigning values to each of said attributes associated with said element;

defining a policy concerning a first set of said elements in terms of relationships between a corresponding first set of values of said attributes associated with said first set of elements and a second set of desired values; and

performing at least one operation, chosen from a group of set operations, on said first set of values to determine if said first set of values meets said policy.

2. The method of claim 1, further comprising providing a report on compliance to said policy by said first set of elements.

3. The method of claim 1, wherein said performing step performs an operation chosen from the group of set operations consisting of: filter, projection, section,

Docket No. AUS920040177US1

diagonal, union, intersection, subset, setminus, and cardinal.

4. The method of Claim 1, wherein said reporting step comprises reporting elements that did not comply with said policy.

5. The method of Claim 1, wherein said defining step uses the relationships of "belongs to" and "does not belong to".

6. The method of Claim 1, wherein said defining step uses multiple relationships joined by the operations "and", "or", and "not".

7. A computer program product in a computer readable medium for managing enforcement of a set of policies on a plurality of computer systems attached to a network, said computer program product comprising:

first instructions for defining, for each type of element in said plurality of computer systems, attributes that are of interest in the operation of said computer systems;

second instructions for assigning, for each element in said plurality of computer systems, values to each of said attributes associated with said element;

third instructions for defining a policy concerning a first set of said elements in terms of relationships between a corresponding first set of values of said

Docket No. AUS920040177US1

attributes associated with said first set of elements and a second set of values; and

fourth instructions for performing at least one operation, chosen from a group of set operations, on said first set of values to determine if said first set of values meets said policy.

8. The method of Claim 1, further comprising fifth instructions for providing a report on compliance to said policy by said first set of elements.

9. The method of Claim 6, wherein said fourth instruction performs an operation chosen from the group of set operations consisting of: filter, project, section, diagonal, union, intersection, subset, setminus, and cardinal.

10. The method of Claim 6, wherein said fifth instruction comprises reporting elements that did not comply with said policy.

11. The method of Claim 6, wherein said third instruction uses the relationships of "belongs to" and "does not belong to".

12. The method of Claim 6, wherein said third instruction uses multiple relationships joined by the operations "and", "or", and "not".

Docket No. AUS920040177US1

13. A computer system comprising:

a processor having a connection to a network;

a keyboard connected to input information to said processor;

an output device for providing reporting capabilities;

a set of instructions stored in memory and connected to be executed by said processor, said set of instructions comprising:

first instructions for defining, for each type of element in a plurality of computer systems that are connected to be managed by said computer system, attributes that are of interest in the operation of said computer systems;

second instructions for assigning, for each element in said plurality of computer systems, values to each of said attributes associated with said element;

third instructions for receiving a policy concerning a first set of said elements defined in terms of relationships between a corresponding first set of values of said attributes associated with said first set of elements and a second set of values; and

fourth instructions for performing at least one operation, chosen from a group of set operations, on said first set of values to determine if said first set of values meets said policy.

14. The computer system of Claim 6, further comprising fifth instructions for providing a report on compliance to said policy by said first set of elements.

Docket No. AUS920040177US1

15. The computer system of Claim 11, wherein said fourth instruction performs an operation chosen from the group of set operations consisting of: filter, project, section, diagonal, union, intersection, subset, setminus, and cardinal.

16. The computer system of Claim 11, wherein said fifth instruction comprises reporting elements that did not comply with said policy.

17. The computer system of Claim 11, wherein said third instructions receive policies using the relationships of "belongs to" and "does not belong to".

18. The computer system of Claim 11, wherein said third instructions receive multiple relationships joined by the operations "and", "or", and "not".

19. The computer system of Claim 11, wherein said report is provided on said output device.